

Notice of Allowability

Application No.

10/751,111

Applicant(s)

NAUNDORF ET AL.

Examiner

Nicole M. Barreca

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/6/05.
2. ☒ The allowed claim(s) is/are 8-23.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/5/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Nicole M Barreca
Primary Examiner
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DETAILED ACTION

1. Claims 8-23 are allowed.
2. The following is an examiner's statement of reasons for allowance: the prior art fails to teach or suggest a method for producing a conductor track on a non-conductive support comprising the combination of the steps as claimed, including providing a non-conductive supporting material having at least one thermally stable, spinel based, non-conductive metal oxide which is selectively irradiated to release metal nuclei and then metallizing the irradiated areas. A discussion of the closest prior art follows.

DE 197 23 734 (related to US 6,319,564) and DE 197 31 346, cited on the International Search Report, disclose a method for forming conductor tracks by selectively breaking up a nonconductive heavy metal complex by exposure to UV radiation, followed by metallizing by chemical reduction. US 6,696,173 and WO 00/35259 also disclose similar methods. The references (all Naundorf et al.) however use Pd complex or Pd containing complex for the heavy metal complex and do not teach or suggest using a spinel-based, non-conductive metal oxide as claimed by the applicant. The prior art does not having any teachings that would motivate one of ordinary skill in the art to substitute a spinel-based, non-conductive metal oxide for the Pd complex used in the methods.

EP 180 101 discloses irradiating a PVA polymer including Pd as seed for forming an electrically conductive layer, followed by electroplating. Suh (US 4,159,414) discloses forming conductive paths using a polymer material having a metal oxide incorporated as a filler, followed by heating with a laser to reduce the metal compound.

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Takakura (US 4,604,303) discloses a method for producing a metallized polymer by heat treating a polymer composition containing an organic metal complex. These references however do not teach or suggest using a spinel-based, non-conductive metal oxide as claimed by the applicant.

Nair (US 4,416,932) discloses a method for forming a conductive pattern on a ceramic substrate by screen printing a paste comprising a noble metal, glass, a spinel based metal oxide and organo titanate, followed by drying and firing. Roy (US 5,082,739) discloses a method for producing a metallized spinel by applying a slurry containing a metal to the spinel and then firing. While the references do include spinel based materials, they fail to teach or suggest selectively irradiating with electromagnetic radiation to break down the non-conductive spinel based metal oxides and release metal nuclei and then metallizing the irradiated areas by chemical reduction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole M Barreca
Primary Examiner
Art Unit 1756



12/10/05